



# The Interagency Board for Standardization and Interoperability



*Strengthening  
National Readiness  
through Standards*

**Kathleen Higgins**

Director

Office of Law Enforcement Standards  
National Institute of Standards and Technology



# 1990s



INTELLIGENCE  
SUBSTANCE

# 1998

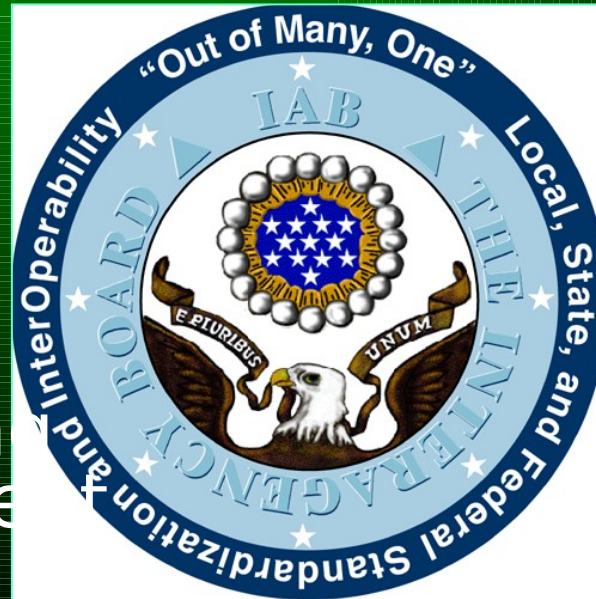


CMPIO WMD

## IAB

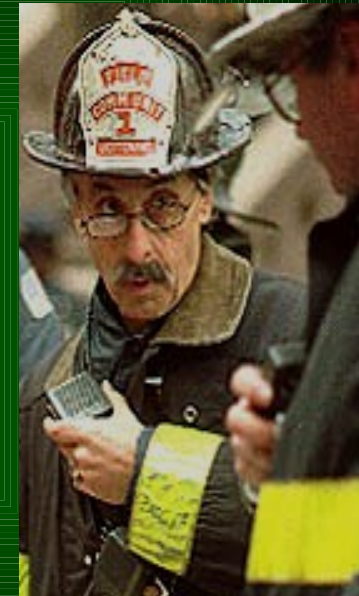
Mission:

Help agencies  
prepare by providing  
guidance on equipment









**Personal Protection & Operational Equipment**     
**Detection & Decontamination Equipment & Procedures**     
**Medical Equipment & Procedures**     
**Interoperable Communications & Information Systems**





## IAB Chair (State/Local)



**Personal  
Protection  
& Operational  
Equipment**

**Contamination**

**Operable  
Communications  
& Information  
Systems**



**IAB  
Chair  
(State/Local  
Organization)**

# SEL

Standardized  
Equipment List

**Personal  
Protection  
& Operational  
Equipment**

**Detection &  
contamination**

**Medical**

**Interoperable  
Communications  
& Information  
Systems**





**IAB  
Chair  
(State/Local  
Organization)**

**Federal  
Coordination  
Committee  
(FCC)**

**Science &  
Technology  
Committee  
(S&T)**

**Standards  
Coordination  
Committee  
(SCC)**

**SubGroups**

**Personal  
Protection  
& Operational  
Equipment**

**Detection &  
contamination**

**Medical**

**Interoperable  
Communications  
& Information  
Systems**



Object  
Equipment  
Evaluation

Performance  
Standards



Performance  
Testing



# Need for Minimum Performance Standards



## Compliance Testing Programs

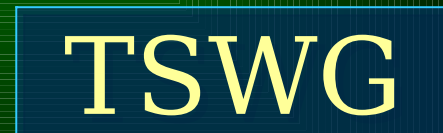
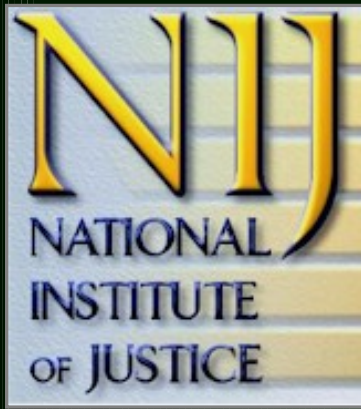




# Standards Coordination Committee

*Supports IAB SubGroups  
in establish performance  
standards and testing programs  
for CBRNE equipment*

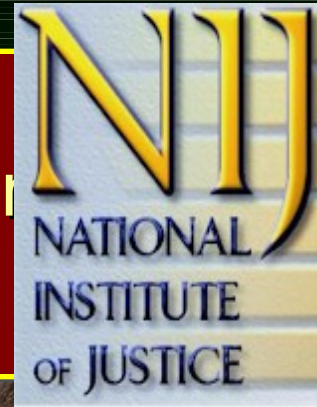




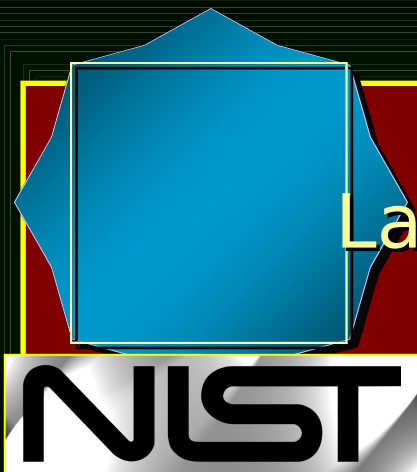




# Office of Law Enforcement Standards (OLES)



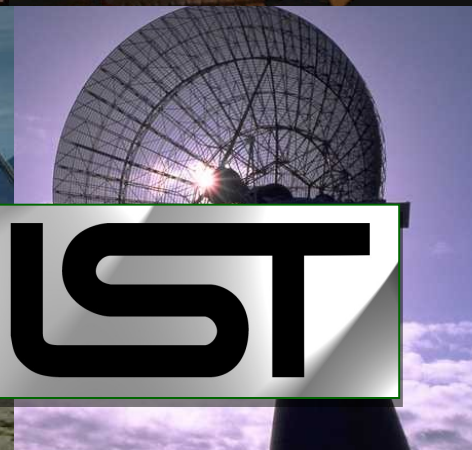
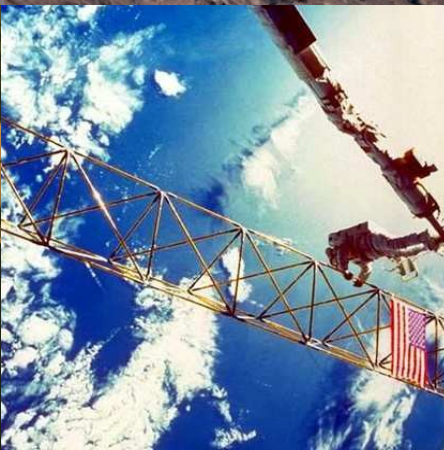
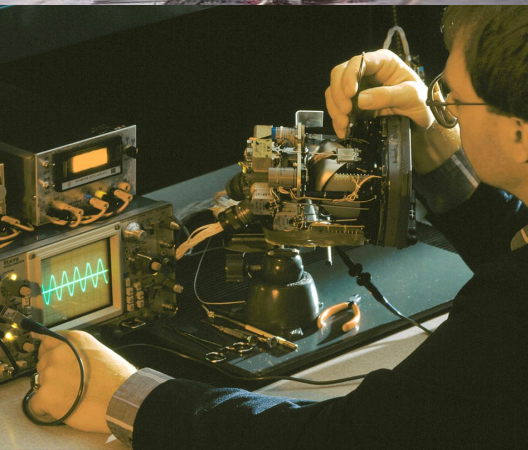
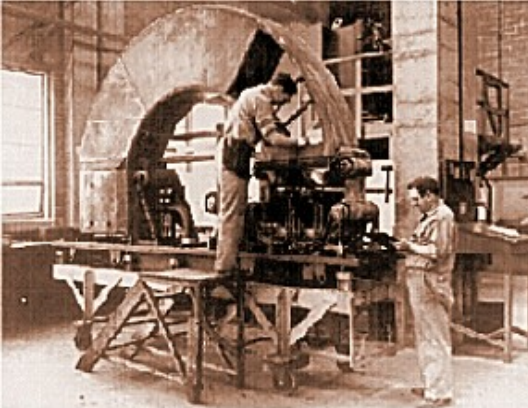




# Office of Law Enforcement Standards (OLE)







**NIST**



# Police Scientific Development Branch, UK.

- Royal Canadian Mounted Police
- Information Administration
- Technical Support Working Group
- National Cybercrime Training & Bureau
- United States Army Partnership
- United States Secret Service
- National Fire Protection Association
- University of Utah Center for Human Toxicology
- DOH National Institute for Occupational Safety & Health
- White House Office of Science & Technology Policy
- NIST Measurements & Standards





# *Program Areas*

Weapons and Protective  
Systems

Detection, Inspection and  
Enforcement Technologies

Forensic Sciences

Public Safety

Critical Incident  
Technologies



# Standards Coordination Committee

**GB**  
(Sarin)

concentration?

exposure?

type of  
filtration?

life of filter?

acceptable  
effectiveness?







# Standards Coordination Committee Early Achievements

- ✓ Threat/Hazard Assessments
- ✓ WMD Computer Simulations
- ✓ Reviews of Existing Standards
- ✓ Ongoing Consultation with Researchers, Manufacturers, Technical Experts and First Responders



U.S. Department of Justice  
Office of Justice Programs  
National Institute of Justice

## National Institute of Justice

Law Enforcement and Corrections Standards and Testing Program

Table 5-3. Handheld Portable Detection Equipment (CA)  
May 2000

Detector Name	Chemical Agents Detected	Time Detected	Sensitivity	Resistance to Interferents	Response Time	Start-Up Time	Detection States	Alarm Capability	Portability	Battery Needs	Power Capabilities	Environment	Durability	Unit Cost	One
RAE 2000	●	TBD	○	TBD	●	●	●	●	●	●	●	TBD	●	●	●
IC Chemical Agent Detector	●	○	●	●	●	●	●	●	●	●	●	●	○	●	●
A Passport II PID Filter	●	TBD	○	TBD	TBD	●	TBD	TBD	TBD	TBD	TBD	TBD	○	●	●
Advanced Portable Detector (APD) 2000	●	○	●	●	●	●	●	●	●	●	●	TBD	○	●	●
INDIV Individual Agent Detector	●	○	●	●	○	●	○	TBD	NA	NA	●	●	TBD	●	●

Volume 1  
June 2000

### 3.3.3 High Performance Liquid Chromatography (HPLC)

High performance liquid chromatography is most useful in the detection and identification of larger molecular weight chemical agents such as BZ or LSD, and in the detection and identification of biological agents. With HPLC, those compounds that do not easily volatilize can be analyzed without undergoing chemical derivatization. HPLC instrumentation is available from a variety of vendors such as Hewlett Packard, Perkin-Elmer, Shimadzu, and Varian, and is shown in Figures 3-15, 3-16, 3-17, and 3-18. As with GCs, HPLC instruments can be equipped with a variety of detectors such as ultraviolet-visible (uV-Vis) spectrometers, mass spectrometers, fluorescence spectrometers, and electrochemical detectors. Two limitations to the fielding of HPLCs and their detectors are the need for power requirements (120V house current) and high purity solvents. Currently there is no portable HPLC unit available.



Figure 3-15. Hewlett Packard HP1000 HPLC System



Figure 3-16. Perkin-Elmer Turbo LC Plus HPLC System



Figure 3-17. Shimadzu LC-10 HPLC System



Figure 3-18. Varian ProStar Analytical HPLC System

# CBRNE Equipment User Guides

The background features the word "STANDARDS" in a large, stylized, yellow font with a blue outline and a drop shadow effect. The letters are bold and blocky. A semi-transparent white rectangular box is centered over the middle of the word, containing the main text.

# **Top Priority:** CBRNE Respiratory Equipment





# Completed Standards

- CBRN SCBA Standard
- CBRN SCBA Certification Testing
- CBRN Escape Mask Standard
- CBRN APR Standard





Coming Soon

- Combination APR/SCBA (2004)
- Closed Circuit SCBA (2004)
- Escape SCBA (2005)
- Supplied Air Respirators (SAR) (2005)



- Vapor-Protective Ensemble for Hazardous Materials Emergencies
- Protective Ensemble for Urban Search and Rescue Operations
- Protective Ensemble for Chemical/Biological Terrorism Incidents
- Standard on Protective Ensemble for Chemical/Biological





# Portable Radiation Protection Standards (March 2004)



American  
National  
Standards  
Institute

# Selectively Permeable Membranes



# Emergency Services Communication Systems

# 5-Year Plan Projections by Fiscal Year

STANDARDS	FY03	FY04	FY05	FY06	FY07	TOTAL
Respirator Standards	3	1	2	1		7
Personal Protective Equipment		1	3	2		6
Bomb Suit			1	1		2
Chemical Detection		1	1	2	1	5
Biological Detection			1	1	1	3
Radiation Detection	4	2				6
Explosive Detection			1	3	2	6
Explosive Device Mediation				1	2	3
Chem/Bio Decontamination				1	1	2
PPE Comm Interface				1		1
Position Location				1		1
<b>Total Standards</b>	<b>7</b>	<b>5</b>	<b>9</b>	<b>14</b>	<b>7</b>	<b>42</b>
<b>EQUIPMENT GUIDES</b>		<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>10</b>



U.S. Department of Justice  
Office of Justice Programs  
National Institute of Justice



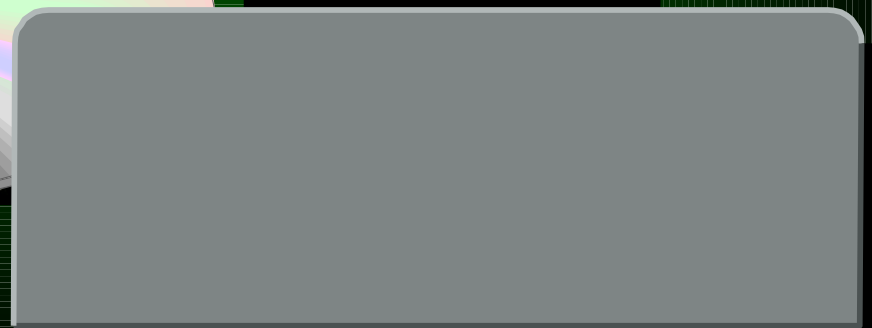
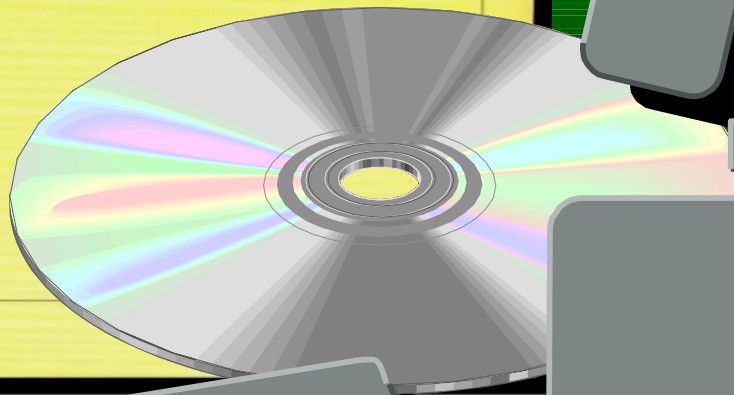
## National Institute of Justice

Law Enforcement and Corrections Standards and Testing Program

**Guide for the Selection of  
Chemical Agent and Toxic Industrial Material  
Detection Equipment for Emergency First Responders**

**NIJ Guide 100-00**

# CBRNE Equipment User Guides



# Selection Care And Maintenance

Guides



U.S. Department of  
Homeland Security

Science and  
Technology Directorate



- ✓ Long-time supporter of SEL and IAB
- ✓ Endorses and funds 5-Year Plan





U.S. Department of  
Homeland Security

Science and  
Technology Directorate



- ✓ NIOSH CBRN respiratory standards used Agency-wide
- ✓ SEL integrated into MIPT First Responder Database
- ✓ User guides incorporated into MIPT web site



U.S. Department  
Homeland Security

Science and  
Technology Directorate



Grants to state and local  
agencies tied to  
CBRNE equipment standards




# Standards Coordination Committee



SDDS







50,000+

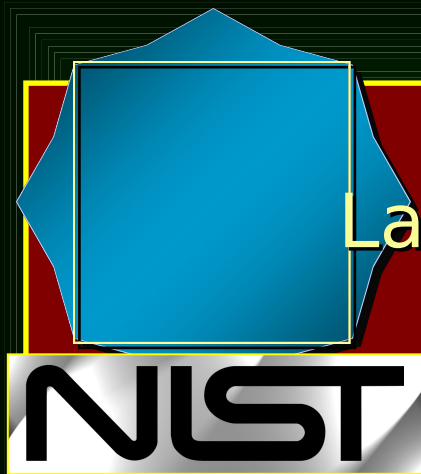
Emergency  
Response Organizations



STAN

DARDS





Office of  
Law Enforcement  
Standards  
(OLES)

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